**Government of Alberta** ■

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# GAS ROYALTY OPERATIONS INFORMATION BULLETIN August 2010

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**PLEASE ENSURE YOUR PRODUCTION ACCOUNTANTS RECEIVE A COPY OF THIS DOCUMENT**

# A. PRICING RATES AND TRANSPORTATION INFORMATION

For Pricing, Royalty Rates and Transportation Information for June 2010, refer to Attachments 1, 1A, 2, 2A and 3. These attachments are also available in Excel Format.

# B. NOTICES

## *AB WG 99999 – June 2010*

**Definition:** AB WG 99999 is a stream ID introduced, by the department, to facilitate reporting by industry clients on specific pre-authorized applications where royalty paid gas volumes are used for fuel and other applications.

Consequently, any gas brought in from outside the Alberta Royalty Network and/or purchased from within the network (PURREC – Purchased Receipt) and used for fuel entitles the operator to report the remainder of the gas volumes, on which royalty have been paid, under stream ID AB WG 99999. As Crown Interest is zero per cent, this will ensure that royalty is not charged twice on the same volume.

**Applications:** Some instances where the use of royalty paid volumes may apply include the need for gas used for:

1. Fuel
2. Gas Lift
3. Pipeline Specifications
4. Injection
5. Other

**Authorization For Use:** Clients who need the use of stream ID AB WG 99999 for the first time are required to contact their respective Client Services Representative, in writing, requesting authorization to report the balance of the royalty paid gas volumes under stream id AB WG 99999. The client written request must include a detailed descriptive flow of the planned volumes applicable to AB WG 99999 and a corresponding schedule for its use. Following receipt and review of the application by Client Services/the department, the royalty client will be notified of the status of the application within 14 days of its receipt.

**Additional Information:**

**Written application should be addressed to:**
Client Services, Gas Royalty Operations
8th Floor, North Petroleum Plaza
9945 –108 Street
Edmonton, Alberta
Canada T5K 2G6

**Telephone inquiries may be directed to:**
If Client Id = # Co, Name Begins A, B & L – Telephone 780 644 1201
If Client Id = Name Begins With C to G – Telephone 780 644 1202
If Client Id = Name Begins With H to P excluding L – Telephone 780 644 1203
If Client Id = Name Begins With Q to Z – Telephone 780 644 1204

# C. MONTHLY INFORMATION

## *June 2010 Royalty Due September 30*

- **Royalty clients are to remit the total amount payable shown on the September 2010 Statement of Account by September 30, 2010.** If the amount payable includes accrued current period interest, the interest has only been accrued to the statement issue date. Clients must also include the additional interest that has accrued from the statement issue date to the date of payment, using the per diem amount provided.

- **The September 2010 Statement of Account shows your amount payable as of the Statement issue date. It includes any outstanding balances from your previous statement, your June 2010 invoice amount and any applicable current period interest charges. It also identifies refunds resulting from overpayments.**

- Current period interest will not be charged on current invoice charges for the production month of June 2010 if it is paid in full by September 30, 2010.

- Current period interest will accrue on any overdue charges commencing the first day after the due-date until it is paid in full.

  **Note: If the due date falls on a non-business day, the next business day will apply as the due date.**

- Cheques are payable to the Minister of Finance, Province of Alberta.

## *July 2010 VA4 Due September 15*

The VA4 forms for the production month of July 2010 are due in the department offices by September 15, 2010.

**Note: If the due date falls on a non-business day, the next business day will apply as the due date for VA4 forms.**

## Registry Deadline Submissions

The Registry deadline submissions for SAF, OAF, and Volumetrics are posted in the Petroleum Registry of Alberta website "Reporting Calendars" under Calendars. Changes to this calendar will be posted on the Registry website home page in "Broadcast Messages."

## Interest Rate August 2010

Alberta Energy's interest rate for August is 3.75%.

## May Provisional Assessment Charge

The summary of Provisional Assessment Charges for all production periods in the May 2010 billing period was:

| First Time Provisional Assessment | Reversals of Provisional Assessments | Net Provisional Assessment |
|---|---|---|
| $3,353,015.70 | ($521,253.27) | $2,831,762.43 |

## May Penalty Charges

The penalty table below shows at the form level, the total penalty charges and reversals, for the May 2010 billing period:

| FORM | Penalty Charges | Penalty Reversals | Net Penalty Charges for 2010/05 |
|---|---|---|---|
| AC2 | $57,400 | ($4,600) | $52,800 |
| AC4 | $600 | $0 | $600 |
| AC5 | $2,400 | $0 | $2,400 |
| NGL1 | $0 | $0 | $0 |
| VA2 | $0 | $0 | $0 |
| VA3 | $0 | $0 | $0 |
| VA4 | $500 | $0 | $500 |
| **Total** | **$60,900** | **($4,600)** | **$56,300** |

### *Gas Royalty Operations Support*

Upon request, Gas Royalty Operations staff will be available to meet with clients who need assistance with royalty reporting. Royalty clients requiring assistance are encouraged to contact your respective Gas Royalty Client Services portfolio representative, as identified in Section F of this bulletin, to arrange a meeting.

### *Well Event Measured Depth Determination Letter*

The Department has issued a "Well Event Measured Depth Determination Letter" under the Report Package DOE – Gas to facility operators via the PRA on August 3 and 16, 2010. This letter shows the confirmed Measured Depth (MD) of each active well event that will be used to calculate the Depth Factor (DF) of the quantity component rate under the new royalty formula. A well event that is not listed on the letter and does not have a confirmed MD will receive a DF of 1. When the changes to the MD are confirmed by the department, a letter is issued to a facility operator who reports changes through the PRA to well event attributes affecting MD. All changes to the MD are applied on a go forward basis only, if a retroactive change is required, a written request must be submitted to the Department. Facility operators are advised to submit well event attribute changes by the last day of the calendar month in order for timely determination of MD.

## D. INFRASTRUCTURE DATA CHANGES

### *Client ID Listing*

The BA Identifiers Report is a directory of Business Associate (BA) names, codes, status (e.g. struck, active, amalgamated, etc.), status effective dates, and effective August 2004, includes Working Interest Owner (WIO) role start/end dates.

This report is also published daily on the Petroleum Registry website at:

http://www.petroleumregistry.gov.ab.ca

The department reminds Business Associates to review their WIO role to ensure that the start and end dates are reflected correctly. If the BA does not have an active WIO role, the operators cannot allocate volumes to the BA for the relevant production periods through the SAF/OAF allocations.

- If a BA has a WIO role, then that BA can receive SAF/OAF allocations from the WIO role start date forward.
- If a BA has a WIO role with an end date, then they can only receive SAF/OAF allocations from the WIO role start date until the end date. Any SAF/OAF allocations after the end date will be rejected.

- If a BA does not have a WIO role start date, then that BA cannot receive SAF/OAF allocations.

Please contact Client Registry at 780-422-1395 if you have any questions regarding the information supplied on this listing.

### *Client Status Changes*

Clients must ensure that all royalty documents are completed using only valid client names and IDs. It is critical that royalty clients use current legal client names and their appropriate IDs on all documents to ensure accurate royalty calculation and to prevent provisional assessment and penalties. Rejects will occur when invalid IDs are used.

If you require information regarding client names or IDs, please contact Client Registry at 780-422-1395.

### *Nova Tolls - Multiple Gas Reference Prices*

Royalty information related to the implementation of the Factor Model negotiated with industry for determining Multiple Gas Valuation Prices is provided on the Natural Gas website's Royalty Related Information page under Facility Royalty Trigger Factors and Meter Station Ties.

## E. REMINDERS

### *Soldier Settlement Board*

We remind clients that when making royalty or rental payments in regards to Soldier Settlement Leases to comply with Information Bulletin 2010-01 (see attached link). http://www.energy.alberta.ca/OurBusiness/1833.asp

### *2010 Capital Cost, Operating Cost and Custom Processing Fee Allowances*

For the January through March 2010 billing period invoices, royalty clients received estimated monthly cost deductions that were based on actual allowable costs for the 2008 production year, multiplied by their estimated Facility Effective Royalty Rates (FERR), divided by 12 (months).

The information in the 2009 AC2, AC3, and AC5 documents were used to calculate the 2009 actual capital cost, operating cost and custom processing fee allowances. The

calculations are reflected in the April 2010 Initial Annual Billing Period (IABP) invoice, issued in June 2010.

The 2009 actual allowable costs will become the royalty client's 2010 allowable cost estimates.

Commencing with the April 2010 billing period, royalty clients will receive monthly deductions based on their 2010 allowable cost estimates, multiplied by their new FERR, minus the total deductions received in the January through March 2010 billing period invoices, divided by the number of months remaining in the year (e.g. 9 months as of the April billing period).

If a royalty client requires a change to the 2010 go-forward allowable cost estimates and/or the FERR, a written request with supporting documentation must be submitted to the Gas Royalty Client Services (see Chapter 6, Section 1 of the Guidelines). These estimates must be calculated and submitted at a client/facility level.

# F. POINTS OF CONTACT

## *Petroleum Registry of Alberta*

The Petroleum Registry of Alberta Service Desk is the focal point for communications with the Registry regarding preparations for, access to, or utilization of the Registry.
To contact the Petroleum Registry of Alberta Service Desk:
Phone: 403-297-6111 or 1-800-992-1144
Fax: 403-297-3665
Email: petroleumregistry.energy@gov.ab.ca

## *Alberta Energy Internet*

Prices, Royalty Rates and Transportation Information are available on the Alberta Energy Internet address: www.energy.alberta.ca, from "Our Business", navigate to "Natural Gas", "About Natural Gas", "Prices", "Alberta Natural Gas Reference Price (ARP)".

In addition, both the Gas Royalty Information Bulletins and Information Letters are also available under "Our Business", navigate to "Natural Gas", "Legislation, Guidelines & Policies".

## *Gas Royalty Client Services*

Gas Royalty Client Services is structured as a Business Associate client portfolio system, which assigns a given Business Associate to one of four Client Services teams. Listed below is the portfolio breakdown along with Client Services Team Leads and phone numbers. The portfolios are divided by company name and not by BA ID.

Example: If your company name is the "Gas Company" you would call C – G team at 780-644-1202.

| Business Associate | | |
|---|---|---|
| **Numbered companies, A, B & L** | 780-644-1201<br>GRCST1@gov.ab.ca | Todd Atwood |
| **C – G** | 780-644-1202<br>GRCST2@gov.ab.ca | Lily Hiew |
| **H – P (excluding L)** | 780-644-1203<br>GRCST3@gov.ab.ca | Chris Nixon |
| **Q – Z** | 780-644-1204<br>GRCST4@gov.ab.ca | Jyoti Bhambhani |

Gas Royalty Reception: 780-422-8727
Fax: 780-427-3334 or 780-422-8732
Alberta Toll Free: 780-310-0000

Hours of operation are 8:15 a.m. to 4:30 p.m. Voice messages left after 4:30 p.m. will be answered the next business day.

In situations where a company has just amalgamated or purchased another company, the general rule is to call the team that is responsible for the "Supra" business associate, or Royalty payer. Below are some guidelines for clients who are unsure which Client Services Team to call regarding their questions.

1. **Amalgamation/consolidation** - Call the team responsible for the "Supra" business associate (Royalty Payer).
   i.e. ABC Oil and Gas amalgamates with Zed Exploration and Zed is the amalgamator (royalty payer). When calling Client Services regarding business for ABC Oil and Gas, you would call Team 4 (Q-Z) (780-644-1204) because Zed Exploration is now the Supra business associate and royalty payer. This rule would apply even if you were calling regarding business that is prior to the acquisition or amalgamation.

2. **Asset Purchase** - Call the team responsible for your company.
   i.e. 123 Gas purchases the assets of TSP Exploration, but not the company. When calling Client Services regarding business for 123 Gas, you would call Team 1 (# Co., A, B, & L) (780-644-1201) because you have only purchased assets.

3. **Consultants/service providers** - If you have a contract to provide production accounting services to a company, call the team responsible for your client's company.
   i.e. Paul Snow Consulting Services enters into a contract with Duckback Oil and Gas and Olive Oil and Gas. Paul Snow would contact Team 2 (C-G) (780-644-1202) to discuss Duckback Oil business and Team 3 (H-P excluding L) (780-644-1203) to discuss Olive Oil and Gas business. At the time the contract is signed, Paul Snow would have had each company notify the appropriate team that he was authorized to access information for their company.

## ***Reference Prices and Valuation Allowances Calculation Information***

Gas Royalty Valuation and Markets
300, 801 – 6 Avenue SW
Calgary, Alberta T2P 3W2
Telephone: 403-297-5514
Fax: 403-297-5400

Deen Khan
Director, Gas Royalty Operations
Royalty Operations

Attachments

## 2010 GAS AND ISC PRICES

| MONTH | Gas Reference Price ($/GJ) | Methane ISC Reference Price ($/GJ) | Methane ISC Par Price ($/GJ) | Ethane ISC Reference Price ($/GJ) | Propane ISC Reference Price ($/GJ) | Butane ISC Reference Price ($/GJ) | Pentanes plus ISC Reference Price ($/GJ) |
|---|---|---|---|---|---|---|---|
| JAN | 4.88 | 4.85 | 4.85 | 5.19 | 5.32 | 5.35 | 5.37 |
| FEB | 4.68 | 4.61 | 4.61 | 5.04 | 5.18 | 5.22 | 5.25 |
| MAR | 4.05 | 4.02 | 4.02 | 4.28 | 4.37 | 4.40 | 4.43 |
| APR | 3.26 | 3.22 | 3.22 | 3.60 | 3.71 | 3.73 | 3.75 |
| MAY | 3.37 | 3.29 | 3.29 | 3.73 | 3.85 | 3.88 | 3.90 |
| JUN | 3.49 | 3.46 | 3.46 | 3.78 | 3.88 | 3.92 | 3.96 |
| JUL | | | | | | | |
| AUG | | | | | | | |
| SEPT | | | | | | | |
| OCT | | | | | | | |
| NOV | | | | | | | |
| DEC | | | | | | | |

| DETAIL OF THE JUNE 2010 GAS AND ISC REFERENCE PRICES | | | | | | |
|---|---|---|---|---|---|---|
| | Gas | Methane | C2-IC | C3-IC | C4-IC | C5-IC |
| Weighted Average Price of Alberta | 3.803 | 3.784 | 3.938 | 3.985 | 3.990 | 4.003 |
| Deductions: Intra – Alberta Transportation | 0.306 | 0.325 | 0.185 | 0.130 | 0.101 | 0.077 |
| Marketing Allowance | 0.019 | 0.019 | 0.019 | 0.019 | 0.019 | 0.019 |
| Price Before Pipeline Factor | 3.478 | 3.440 | 3.734 | 3.836 | 3.870 | 3.907 |
| Pipeline Fuel/Loss Factor | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 |
| Price before Special Adjustment | 3.455 | 3.418 | 3.710 | 3.811 | 3.845 | 3.882 |
| Special Adjustment | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Price before 2% amendment limitation or rounding | 3.455 | 3.418 | 3.710 | 3.811 | 3.845 | 3.882 |
| Amendments: Carry forward (from previous RP month | 0.002 | 0.001 | 0.685 | 1.180 | 1.141 | 1.203 |
| Prior Period Amendment Adjustment (current RP mon | 0.036 | 0.039 | 0.021 | 0.003 | 0.002 | 0.003 |
| Calculated RP after Amendments | 3.493 | 3.458 | 4.416 | 4.994 | 4.988 | 5.088 |
| **JUNE 2010 Reference Price** | **3.49** | **3.46** | **3.78** | **3.88** | **3.92** | **3.96** |
| Difference = value carried forward to next RP month | 0.003 | -0.002 | 0.636 | 1.114 | 1.068 | 1.128 |
| Adjusted IATD (before Prior Period Amendments) | | 0.323 | 0.184 | 0.130 | 0.100 | 0.076 |
| Prior period Amendments (IATD and Pipeline Fuel Los | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Adjusted IATD (after Prior Period Amendments) | | 0.323 | 0.184 | 0.130 | 0.100 | 0.076 |

# 2010
# NATURAL GAS LIQUIDS PRICES

| MONTH | Ethane Reference Price ($/GJ) | Ethane Par Price ($/GJ) | Propane Reference Price ($/m3) | Propane Floor Price ($/m3) | Butane Reference Price ($/m3) | Butane Floor Price ($/m3) | Pentanes plus Reference Price ($/m3) | Pentanes plus Par Price ($/m3) | Sulphur Default Price ($ per tonne) |
|---|---|---|---|---|---|---|---|---|---|
| JAN | 5.19 | 5.19 | 365.10 | 304.14 | 462.20 | 362.63 | 535.03 | 512.98 | 15.84 |
| FEB | 5.04 | 5.04 | 350.66 | 310.59 | 440.83 | 328.69 | 552.62 | 541.33 | 38.58 |
| MAR | 4.28 | 4.28 | 271.19 | 243.48 | 437.36 | 299.13 | 568.06 | 554.48 | 49.30 |
| APR | 3.60 | 3.60 | 269.23 | 242.05 | 428.49 | 308.22 | 583.58 | 574.41 | 69.93 |
| MAY | 3.73 | 3.73 | 256.46 | 237.89 | 387.98 | 293.51 | 524.21 | 506.81 | 52.32 |
| JUN | 3.78 | 3.78 | 238.47 | 218.81 | 400.01 | 293.50 | 492.95 | 476.28 | 65.38 |
| JUL | | | | | | | | | |
| AUG | | | | | | | | | |
| SEPT | | | | | | | | | |
| OCT | | | | | | | | | |
| NOV | | | | | | | | | |
| DEC | | | | | | | | | |

## ANNUAL SULPHUR DEFAULT PRICE

| 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|
| $33.97 | $18.89 | $32.88 | $297.39 | $6.35 |

# 2010

# NGL TRANSPORTATION ALLOWANCE AND DEDUCTIONS

| MONTH | PENTANES PLUS (a) | | | | PROPANE AND BUTANE (b) | | | | PENTANES PLUS, PROPANE & BUTANE (c) | | | | FRAC. ALLOW. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | REGION | | | | REGION | | | | REGION | | | | |
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | (per m3) |
| JAN | 19.35 | 26.76 | 10.13 | 25.18 | 57.07 | 19.16 | 3.92 | -10.19 | 57.95 | 52.54 | 63.03 | 51.40 | 17.25 |
| FEB | 8.52 | 17.16 | -6.32 | 17.46 | 51.39 | 24.76 | 61.89 | -8.43 | 51.58 | 51.62 | 55.86 | 45.56 | 17.25 |
| MAR | 10.32 | 18.62 | 1.65 | 17.28 | 51.24 | 32.88 | 15.96 | 5.15 | 59.67 | 47.42 | 53.64 | 47.86 | 17.25 |
| APR | 8.28 | 9.64 | 7.49 | 14.86 | 28.22 | 18.05 | 23.93 | 23.68 | 31.98 | 31.69 | 42.44 | 29.77 | 17.25 |
| MAY | 15.74 | 24.44 | 5.69 | 13.53 | 24.26 | 14.77 | 16.30 | 24.94 | 28.14 | 28.83 | 32.16 | 29.88 | 17.25 |
| JUN | 10.87 | 25.23 | -9.35 | 25.61 | 32.46 | 21.34 | 27.66 | 27.22 | 39.71 | 41.09 | 41.95 | 39.68 | 17.25 |
| JUL | | | | | | | | | | | | | |
| AUG | | | | | | | | | | | | | |
| SEPT | | | | | | | | | | | | | |
| OCT | | | | | | | | | | | | | |
| NOV | | | | | | | | | | | | | |
| DEC | | | | | | | | | | | | | |

(a) Pentanes Plus obtained as a specification gas product,
(b) Propane and Butane obtained as specification products, and
(c) Pentanes Plus, Propane and Butane contained in a natural gas liquids mix.

Note: For details on "Prior Period Amendment Effects", see Attachment 2A.

**PRIOR PERIOD AMENDMENT EFFECTS**

| **NGL REFERENCE PRICES** | JUNE 2010 | | |
|---|---|---|---|
| | | | |
| | *Propane* | *Butanes* | *Pentanes* |
| Price before amendments | 239.668152 | 400.009761 | 492.948334 |
| Opening Rollover (from prior business mth) | -0.002893 | -0.001913 | -0.002688 |
| Prior Period Amendment Adj. (NGL-100) | -1.194540 | 0.000000 | 0.000000 |
| **Published Reference Price** | **238.47** | **400.01** | **492.95** |

| **TRANSPORTATION ALLOWANCES** | JUNE 2010 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pentanes Plus | | | | Propane and Butane | | | | Pentanes Plus, Propane & Butane | | | |
| AMENDMENTS | Region 1 | Region 2 | Region 3 | Region 4 | Region 1 | Region 2 | Region 3 | Region 4 | Region 1 | Region 2 | Region 3 | Region 4 |
| Opening Rollover (from prior business mth) | 0.002553 | 0.001803 | -0.002199 | 0.002238 | -0.002311 | -0.002824 | 0.002270 | -0.000740 | 0.001047 | -0.000375 | -0.002190 | 0.003071 |
| Prior Period Amendment Adj. (NGL-100) | 0.001417 | 0.000000 | 0.000000 | 0.000000 | -0.701517 | -0.647692 | -0.685090 | -1.125394 | -0.450038 | -0.483620 | -0.374807 | 3.356391 |
| Total Amendment Effect | 0.003970 | 0.001803 | -0.002199 | 0.002238 | -0.703828 | -0.650516 | -0.682820 | -1.126134 | -0.448991 | -0.483995 | -0.376997 | 3.359462 |
| Calculated Transp. Differential | 10.868654 | 25.230412 | -9.347930 | 25.608061 | 33.168097 | 21.989186 | 28.342686 | 28.342686 | 40.156068 | 41.571123 | 42.322013 | 36.315839 |
| Calculated Transp. Differential after Total Amendments | 10.872624 | 25.232215 | -9.350129 | 25.610299 | 32.464269 | 21.338670 | 27.659866 | 27.216552 | 39.707077 | 41.087128 | 41.945016 | 39.675301 |
| **Published Transportation Allowance** | **10.87** | **25.23** | **-9.35** | **25.61** | **32.46** | **21.34** | **27.66** | **27.22** | **39.71** | **41.09** | **41.95** | **39.68** |

Effective the January 2009 production period, the royalty rates for **methane** and **ethane** will be calculated based on a new royalty formula. The new royalty formula consists of the sum of a price component and a quantity component. The new royalty rates will range from 5% to 50%. **Propane** and **butanes** will have fixed royalty rates of 30%, whereas **pentanes plus** will have a fixed royalty rate of 40%.

The price component of the new royalty formula royalty rate for methane and ethane is determined by the monthly methane or ethane par price (PP)

| Price ($/GJ) | $r_p$ |
|---|---|
| PP ≤ 7.00 | (PP – 4.50) * 0.0450 |
| 7.00 < PP ≤ 11.00 | (PP – 7.00) * 0.0300 + 0.1125 |
| PP > 11.00 | (PP – 11.00) * 0.0100 + 0.2325 |
| Maximum | 30% |
| Minimum | Can be negative (-20.25% if PP=0) |

The par price is a provincial weighted price determined by the department and published in the Information Letter for each production month. Determination of the par price has not changed under the Alberta Royalty Framework.

The quantity component of the new royalty formula royalty rate for methane and ethane is based on the average daily production (ADP) of the well event. The quantity component is adjusted for either the depth of the well event and/or the acid gas content of the well event.

| Quantity ($10^3m^3/d$) | $r_q$ |
|---|---|
| ADP≤ (6 * DF) | [ADP – (4 * DF)] * (0.0500/DF) |
| (6 * DF) < ADP ≤ (11* DF) | [ADP – (6 * DF)] * (0.0300/DF) + 0.1000 |
| ADP > (11* DF) | [ADP – (11 * DF)] * (0.0100/DF) + 0.2500 |
| Maximum | 30% |
| Minimum | Can be negative |

The ADP for a well event is the total raw gas production in thousand cubic metres ($10^3m^3$) for the month divided by the total hours of production in that month multiplied by 24. The ADP formula is as follows:

$$ADP = \frac{\text{Total raw gas production}}{\text{Total hours of production}} \times 24$$

Acid Gas Factor (AGF) is a factor that adjusts the ADP of a well event if that well event is producing high amounts of acid gas, that is, if the combined concentration of hydrogen sulphide (H2S) and carbon dioxide ($CO_2$) is greater than 3% and less than or equal to 25%. If a well event has an acid gas content of less than or equal to 3%, then the AGF of the well event will default to 1.00. If a well event has acid gas content greater than 25% then the AGF has a minimum value of 0.78.

The AGF is determined based on the following formula:

$$AGF = [1.03 - (H_2S\% + CO_2\%)]$$

The ADP is adjusted by multiplying the ADP by the AGF, that is:

Adjusted ADP = ADP * AGF

The acid gas content of a well event, used by the department for the determination of the AGF, will be according to the records of the ERCB.

A depth factor (DF) is required for all well events, and is calculated based on the measured depth (MD) according to the records of the ERCB for that well event. Information on the MD, of a well event, can be found on the Petroleum Registry of Alberta (PRA) in the 'Infrastructure' section.

The DF is used in the determination of the quantity component ($r_q$) of the royalty rate; it adjusts the quantity component royalty formula for measured depths that exceed 2000 metres. The DF for a well event is determined based on the following formula:

$$DF = \left( \frac{MD}{2000} \right)^2$$

A well event with a MD greater than 2,000 metres will receive a royalty adjustment based on production from the well event. A well event without a reported MD or with MD less than or equal to 2,000 metres will have a DF of 1.00. The DF is capped at 4.00 for well events with MD greater than or equal to 4,000 metres.

**If the MD is**

$$\begin{cases} \leq 2{,}000 \text{ metres, then the DF} = 1.00 \\ > 2{,}000 \text{ metres and } < 4{,}000 \text{ metres, then DF} = \left( \dfrac{MD}{2000} \right)^2 \\ \geq 4{,}000 \text{ metres, then the DF} = 4.00 \end{cases}$$